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Office Memorandum • UNITED STATES GOVERNMENT

TO :

DATE: 9 July 1957

FROM :

STATINTL

SUBJECT:

Statistical Review of Project 33.1660, Quarterly Estimate of the Production of Aircraft in the Sino-Soviet Bloc, April-June 1957.

STATINTL

1. The statistical review of the above project has been completed by [] The review consisted of checking the tables for statistical accuracy and consistency with the text.

2. On the basis of the statistical presentation, the project is considered to be very well done. The tables were found to be carefully prepared and the textual material was consistent with the data in the tables. Only one change was found to be necessary. This change has been agreed to by the analyst and is noted below for your information.

Page 1. Line 10 should read "...78 (not 80) percent..."

DIA and OSD review(s) completed.

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QUARTERLY ESTIMATE OF THE PRODUCTION OF AIRCRAFT
IN THE SINO-SOVIET BLOC
APRIL-JUNE 1957

CIA/RR IP-545

31 July 1957

CENTRAL INTELLIGENCE AGENCY

Office of Research and Reports

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WARNING

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FOREWORD

This report is the ninth in a series to be issued on a quarterly basis summarizing production of aircraft in the Sino-Soviet Bloc. The estimates presented are issued to satisfy the requests of consumers for the most recent estimates of production of aircraft in the Bloc and are intended to supersede those contained in previous ORR publications. Changes in the present estimate from past estimates are the results of more recent intelligence information.

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[REDACTED]

[REDACTED] No interagency coordination has been attempted, and no dissemination of this report outside CIA is planned.

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CIA/RR IP-545
(ORR Project 33.1660)

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QUARTERLY ESTIMATE OF THE PRODUCTION OF AIRCRAFT
IN THE SINO-SOVIET BLOC
APRIL-JUNE 1957*

1. Trends in Production.

In the second quarter of 1957, estimated total production of aircraft, by number and by weight, in the Sino-Soviet Bloc remained essentially the same as the estimated total production in the previous quarter.** Approximately 52 percent of the aircraft produced by the Bloc during the second quarter of 1957 are believed to have been combat types.***

2. Production in the USSR.

The Soviet share of estimated total production of aircraft by the Sino-Soviet Bloc during the second quarter of 1957 decreased about 2 percent from that of the previous quarter.**** Of the 2,300 aircraft estimated to have been produced by the Bloc in the second quarter of 1957, about 1,800 aircraft, or approximately 78 percent, were produced in the USSR. As an indication that the Satellites still are producing relatively lighter aircraft than the USSR, about 91 percent of the estimated total production of aircraft in the Bloc, by airframe weight, took place in the USSR. Approximately 86 percent of the estimated total production of combat aircraft in the Bloc during the second quarter of 1957 is believed to have taken place in the USSR.

* The estimates and conclusions contained in this report represent the best judgment of ORR as of 1 July 1957.

** Estimated production of aircraft in the Sino-Soviet Bloc from 1954 through the second quarter of 1957 is given by number in Table 1, p. 5, below, and by airframe weight in Table 2, p. 6, below.

*** For the purposes of this report, combat types include bomber, fighter, and ground attack aircraft. Other aircraft such as helicopters and transports have uses under both combat and noncombat conditions.

**** Estimated production of aircraft in the USSR from 1954 through the second quarter of 1957 is given by number in Table 3, p. 7, below, and by airframe weight in Table 4, p. 8, below.

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It is estimated that total Soviet production of combat aircraft during the second quarter of 1957 exceeded that of the US by approximately 14 percent in terms of numbers and by approximately 11 percent in terms of airframe weight.*

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As a result of recent intelligence information, several major changes have been made in previously published estimates of Soviet production of aircraft. Observations of the plant area at Moscow Airframe Plant No. 23, production site of the Bison heavy jet bomber, and analysis [] indicate a production rate of probably 8 Bisons during the second quarter of 1957. Because 9 Bisons are believed to have been produced during the first quarter of 1957, the cumulative production of the Bison through the second quarter of 1957 is estimated to be 65 aircraft.** Estimated figures for production of the Beagle (Il-28) jet light bomber have been lowered since recent information established that Omsk Airframe Plant No. 166, previously believed to be producing the Beagle, actually has been engaged in production of the Camel (Tu-104) jet transport probably since mid-1955. Cumulative production of the Camel is estimated to have reached 51 aircraft, some of which are believed to be military versions of the transport.

It has become obvious in the past year that the USSR is placing a great deal of emphasis on the development of transport aircraft. A total of 9 turboprop transports of the types Camp, a 2-engine military transport, and Cat, a 4-engine civil transport, are estimated to have been constructed by the USSR at Kiev Airframe Plant No. 473 in conjunction with Antonov's Special Design Bureau (Osoboye Konstruktor-skoye Byuro -- OKB). It is believed that these models are prototypes and that 1 or 2 other plants are engaged in series production of the transports, with the first series-produced aircraft probably scheduled for completion late in the summer of 1957. A recent sighting of unidentified aircraft at Kazan' Airframe Plant No. 22 might mean that still another aircraft plant may be entering the transport program.

* Production of combat aircraft in the USSR from 1954 through the second quarter of 1957 is compared with that in the US by number in Figure 1, inside back cover, and by airframe weight in Figure 2, inside back cover. For additional comparison, US military acceptances from 1954 through the second quarter of 1957 are given by number in Table 6, p. 10, below, and by airframe weight in Table 7, p. 11, below.

** Estimated cumulative production of selected Soviet aircraft through the second quarter of 1957 is given in Table 5, p. 9, below.

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Plant No. 22, currently believed to be producing the Badger medium jet bomber, was viewed recently [redacted]

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[redacted] The observer reported his impression that 10 or 12 large aircraft, which were seen on the runway, had high tails and unusually fat fuselages. Because this description could well apply to one of the unidentified transport aircraft seen in the eighth rehearsal for the 1957 Tushino Air Show, it is possible that Plant No. 22 is producing an experimental series of transports along with its production of medium bombers or that the plant is starting series production of transports.* No estimate has been made regarding the unidentified aircraft at this plant pending additional information.

Recent information indicates that Moscow Airframe Plant No. 82, contrary to previous estimates, probably never has been engaged in production of the Horse (Yak-24) helicopter. It is believed that a plant in Leningrad, possibly Leningrad Airframe Plant No. 272, may have been responsible at least for initial production of the large helicopter. The estimated cumulative production figure for the Horse has been lowered to correspond with the smaller floor area of Plant No. 272 and with the small number of sightings of this aircraft.

Estimated figures for production of Soviet fighter aircraft have been changed from the previously published estimate. Analysis of recent intelligence has indicated that none of the new jet fighters seen in the 1956 Tushino Air Show as yet have been series produced, although some plants are believed almost ready for series production of the new fighters. First production models of still unidentified new jet fighters are expected to be completed some time during the third quarter of 1957. From recent sightings at Rostov Airframe Plant No. 168, it is believed now that this plant has never been engaged in series production of a new fighter. It is considered probable that a few prototypes, possibly of the Faceplate, were constructed at the plant.

3. Production in the European Satellites and in Communist China.

In the second quarter of 1957 the European Satellites produced an estimated total of about 430 aircraft, or approximately 19 percent of the total production of aircraft in the Sino-Soviet Bloc. During this same period, Communist China is estimated to have produced 73 aircraft, all piston-engine trainers, accounting for about 3 percent of the

* Inasmuch as the aircraft [redacted] it is also possible that they actually were Badgers.

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estimated total production by the Bloc.* Czechoslovakia and Poland remain the largest producers among the Satellites, accounting for about 59 percent and 21 percent, respectively, or a combined total of about 80 percent of Satellite production of aircraft by number.

Repeated sightings by the US Air Attaché to Czechoslovakia of significant numbers of Fagot (MIG-15) and Midget (U-MIG-15) aircraft at the Vodochody plant indicate continuing relatively high production of these aircraft. Although production of more modern aircraft is anticipated, available information reveals no clear indication of plans to introduce production of other aircraft at this plant in the immediate future. Observations by the Attaché of Crate (Il-14) transports at the Prague Letnany plant airfield for the Avia plant reveal a gradually accelerating schedule of production for Crates. It is believed that a majority of Czechoslovak-produced Crates are delivered to the USSR.

Production of the Fagot continues at the Mielec plant in Poland.

[redacted] production of the Fresco (MIG 17) or of possibly another jet fighter was initiated in late 1956. No reliable reports, however, are available to confirm such production. The US Air Attaché to Poland continues to report sightings of only Fagot types of aircraft at the Mielec plant airfield.

In East Germany the rate of production of Crate transports increased during the second quarter. Delays in the delivery of supplies and other difficulties in production are believed to be retarding a planned increase in the production schedule.

Hungarian production of Max (Yak-18) trainers is estimated to have been resumed during the second quarter of 1957 after an interruption in production occasioned by the Hungarian uprising in October 1956.

It is believed that during the second quarter of 1957 the Chinese Communists at a Mukden plant assembled Fresco jet fighters from Soviet-manufactured parts. Available information indicates that the Chinese may enter series production of a MIG type of fighter in late 1957. Information also indicates that the Chinese Communists possibly may be producing jet engines at a Mukden plant.

* Estimated production of aircraft in the European Satellites and Communist China from 1954 through the second quarter of 1957 is given by number in Table 8, p. 12, below, and by airframe weight in Table 9, p. 13, below.

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Table 1

Estimated Production of Aircraft in the Sino-Soviet Bloc, by Number a/
1954 Through the Second Quarter of 1957

Type of Aircraft	Units				
	1954	1955	1956	1st Quarter of 1957	2d Quarter of 1957
Jet bomber					
Heavy	1	21	25	9	8
Medium	140	350	470	120	120
Light	1,200	790	330	64	44
Turboprop bomber					
Heavy	0	8	24	6	6
Jet fighter	4,300	3,800	3,600	1,000	1,000
Ground attack	210	0	0	0	0
Transport					
Jet	0	6	27	9	9
Turboprop	0	0	3	3	3
Piston	1,700	740	1,100	340	340
Trainer					
Jet	1,200	1,200	800	200	210
Piston	1,100	1,300	1,500	380	400
Other <u>b/</u>	640	400	500	130	140
Total	<u>10,000</u>	<u>8,700</u>	<u>8,400</u>	<u>2,300</u>	<u>2,300</u>

a. Figures are rounded to two significant digits. Totals are derived from unrounded figures and do not always agree with the sum of the rounded components.

b. Helicopters, gliders, seaplanes, and utility aircraft.

Table 2

Estimated Production of Aircraft in the Sino-Soviet Bloc, by Weight a/
1954 Through the Second Quarter of 1957

Type of Aircraft	Thousand Pounds of Airframe Weight				
	1954	1955	1956	1st Quarter of 1957	2d Quarter of 1957
Jet bomber					
Heavy	110	2,300	2,800	1,000	890
Medium	7,100	18,000	24,000	5,900	6,100
Light	22,000	14,000	6,000	1,200	800
Turboprop bomber					
Heavy	0	720	2,200	540	540
Jet fighter	30,000	29,000	32,000	9,400	9,200
Ground attack	1,700	0	0	0	0
Transport					
Jet	0	370	1,700	560	560
Turboprop	0	0	94	120	120
Piston	9,700	3,100	9,600	3,400	3,500
Trainer					
Jet	8,600	9,100	5,000	1,300	1,300
Piston	1,600	2,200	2,400	610	620
Other <u>b/</u>	6,300	4,000	3,900	900	920
Total	87,000	83,000	90,000	25,000	25,000

a. Figures include production of spare parts and are rounded to two significant digits. Totals are derived from unrounded figures and do not always agree with the sum of the rounded components.
b. Helicopters, gliders, seaplanes, and utility aircraft.

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Table 3

Estimated Production of Aircraft in the USSR, by Number a/
1954 Through the Second Quarter of 1957

Type of Aircraft	Units				
	1954	1955	1956	1st Quarter of 1957	2d Quarter of 1957
Jet bomber					
Heavy	1	21	25	9	8
Medium	140	350	470	120	120
Light	1,200	790	330	64	44
Turboprop bomber					
Heavy	0	8	24	6	6
Jet fighter	3,800	3,200	3,000	880	840
Transport					
Jet	0	6	27	9	9
Turboprop	0	0	3	3	3
Piston	1,700	740	1,100	320	320
Trainer					
Jet	1,100	920	500	130	130
Piston	830	830	830	210	210
Other <u>b/</u>	640	380	390	96	96
Total	<u>9,300</u>	<u>7,300</u>	<u>6,700</u>	<u>1,800</u>	<u>1,800</u>

a. Figures are rounded to two significant digits. Totals are derived from unrounded figures and do not always agree with the sum of the rounded components.

b. Helicopters, gliders, and seaplanes.

Table 4

Estimated Production of Aircraft in the USSR, by Weight a/
1954 Through the Second Quarter of 1957

Type of Aircraft	Thousand Pounds of Airframe Weight				
	1954	1955	1956	1st Quarter of 1957	2d Quarter of 1957
Jet bomber					
Heavy	110	2,300	2,800	1,000	890
Medium	7,100	18,000	24,000	5,900	6,100
Light	22,000	14,000	6,000	1,200	800
Turboprop bomber					
Heavy	0	720	2,200	540	540
Jet fighter	27,000	26,000	29,000	8,500	8,300
Transport					
Jet	0	370	1,700	560	560
Turboprop	0	0	94	120	120
Piston	9,700	3,100	9,300	3,100	3,100
Trainer					
Jet	8,100	7,100	3,200	830	860
Piston	920	990	990	250	250
Other <u>b/</u>	6,300	4,000	3,800	840	840
Total	<u>81,000</u>	<u>77,000</u>	<u>83,000</u>	<u>23,000</u>	<u>22,000</u>

a. Figures include production of spare parts and are rounded to two significant digits. Totals are derived from unrounded figures and do not always agree with the sum of the rounded components.

b. Helicopters, gliders, and seaplanes.

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Table 5

Estimated Cumulative Production of Selected Aircraft in the USSR a/
Through the Second Quarter of 1957

		Units
Model	Type of Aircraft	Production to 1 July 1957
Badger	Jet medium bomber	1,200
Beagle	Jet light bomber	6,000
Bear	Turboprop heavy bomber	51 <u>b/</u>
Bison	Jet heavy bomber	65
Camel	Jet transport	51
Crate	Piston transport	830
Farmer	Jet fighter	2,500
Flashlight	Jet all-weather interceptor	1,500
Fresco	Jet fighter	10,000
Horse	Helicopter	37
Hound	Helicopter	560

a. The totals given in this table are rounded to two significant digits.

b. This figure includes seven prototypes seen in July 1955.

Table 6

US Military Aircraft Acceptances, by Number a/
1954 Through the Second Quarter of 1957

Type of Aircraft	Units				
	1954	1955	1956	1st Quarter of 1957	2d Quarter of 1957 <u>b/</u>
Bomber					
Heavy	28	34	75	32	33
Medium	767	530	505	67	51
Light	106	155	105	14	0
Ground attack	860	631	469	110	94
Fighter	3,518	4,017	2,656	604	717
Transport	634	536	362	47	54
Trainer	1,602	1,439	843	191	197
Other <u>c/</u>	1,235	701	1,098	296	316
Total	<u>8,750</u>	<u>8,043</u>	<u>6,113</u>	<u>1,361</u>	<u>1,462</u>

a. The source of these figures is the Office of the Assistant Secretary of Defense (Supply and Logistics), Statistics Branch, US Military Aircraft Acceptances, 1953-June 1957, Number and Air-frame Weight, June 1957, CONFIDENTIAL.

b. Includes preliminary data for June 1957.

c. Helicopters, flying boats, amphibians, and lighter-than-air.

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Table 7

US Military Aircraft Acceptances, by Weight a/
1954 Through the Second Quarter of 1957

Type of Aircraft	Thousand Pounds of Airframe Weight				
	1954	1955	1956	1st Quarter of 1957	2d Quarter of 1957 <u>b/</u>
Bomber					
Heavy	3,304	3,853	8,442	3,598	3,716
Medium	37,296	26,377	22,525	2,649	1,757
Light	1,834	2,724	1,975	268	0
Ground attack	7,793	6,034	4,803	985	1,073
Fighter	35,390	43,161	30,588	7,143	8,408
Transport	30,614	20,697	13,104	1,703	2,284
Trainer	9,633	7,453	3,283	867	948
Other <u>c/</u>	4,831	4,397	5,292	1,113	1,186
Total	<u>130,695</u>	<u>114,696</u>	<u>90,012</u>	<u>18,326</u>	<u>19,372</u>

a. The source of these figures is the Office of the Assistant Secretary of Defense (Supply and Logistics), Statistics Branch, US Military Aircraft Acceptances, 1953-June 1957, Number and Airframe Weight, June 1957, CONFIDENTIAL.

b. Includes preliminary data for June 1957.

c. Helicopters, flying boats, amphibians, and lighter-than-air.

Table 8

Estimated Production of Aircraft in the European Satellites and in Communist China
by Number a/
1954 Through the Second Quarter of 1957

Country	Type of Aircraft	Units				
		1954	1955	1956	1st Quarter of 1957	2d Quarter of 1957
Czechoslovakia	Jet fighter	390	240	220	75	75
	Ground attack	210	0	0	0	0
	Jet trainer	89	310	310	75	75
	Piston trainer	190	360	360	91	91
	Transport b/	0	0	13	12	15
	Other	0	22	96	30	40
Total		<u>880</u>	<u>940</u>	<u>1,000</u>	<u>280</u>	<u>300</u>
Poland	Jet fighter	160	360	360	90	90
	Piston trainer	60	36	36	9	9
	Light helicopter	0	0	10	6	8
Total		<u>220</u>	<u>400</u>	<u>410</u>	<u>100</u>	<u>110</u>
Rumania	Piston trainer	24	24	24	9	12
Hungary	Piston trainer	24	24	20	0	10
East Germany	Transport	0	0	5	3	6
Communist China	Piston trainer	0	20	220	69	73
Grand total		<u>1,200</u>	<u>1,400</u>	<u>1,700</u>	<u>470</u>	<u>500</u>

a. Figures are rounded to two significant digits. Totals are derived from unrounded figures and do not always agree with the sum of the rounded components.
b. Estimates of Aero-45 production in Czechoslovakia, previously listed in the Transport category, are now listed in the Other category for all periods given in this table.

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Table 9

Estimated Production of Aircraft in the European Satellites and in Communist China
by Weight a/
1954 Through the Second Quarter of 1957

		Thousand Pounds of Airframe Weight				
Country	Type of Aircraft	1954	1955	1956	1st Quarter of 1957	2d Quarter of 1957
Czechoslovakia	Jet fighter	2,300	1,400	1,300	440	440
	Ground attack	1,700	0	0	0	0
	Jet trainer	550	1,900	1,800	460	460
	Piston trainer	580	1,100	1,100	270	270
	Transport <u>b/</u>	0	0	220	210	260
	Other	0	33	140	41	51
Total		<u>5,200</u>	<u>4,500</u>	<u>4,600</u>	<u>1,400</u>	<u>1,500</u>
Poland	Jet fighter	950	2,200	2,200	540	540
	Piston trainer	60	37	37	9	9
	Light helicopter	0	0	28	17	22
Total		<u>1,000</u>	<u>2,200</u>	<u>2,200</u>	<u>570</u>	<u>570</u>
Rumania.	Piston trainer	22	22	22	8	11
Hungary	Piston trainer	17	17	20	0	10
East Germany	Transport	0	0	86	52	100
Communist China	Piston trainer	0	20	220	70	74
Grand total		<u>6,200</u>	<u>6,700</u>	<u>7,200</u>	<u>2,100</u>	<u>2,300</u>

a. Figures include production of spare parts and are rounded to two significant digits. Totals are derived from unrounded figures and do not always agree with the sum of the rounded components.

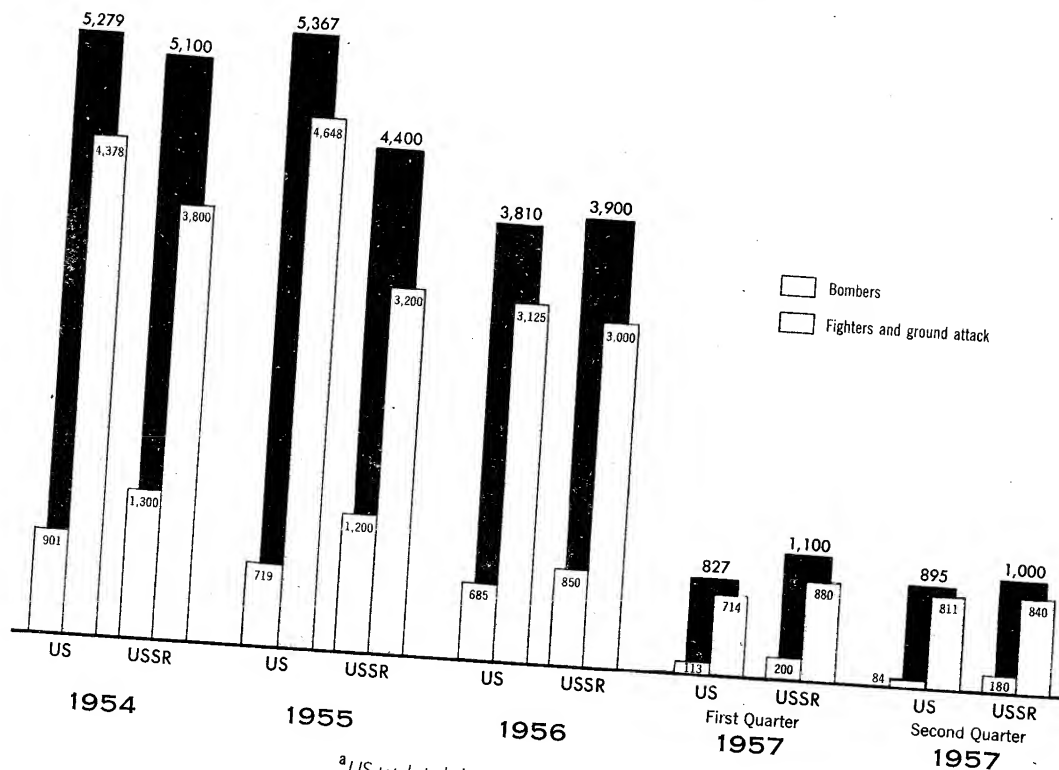
b. Estimates of Aero-45 production in Czechoslovakia, previously listed in the Transport category, are now listed in the Other category for all periods given in this table.

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US^a and USSR^b
PRODUCTION OF MILITARY AIRCRAFT, BY NUMBER
 1954 Through the Second Quarter of 1957

Figure 1



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^aUS totals include preliminary data for June 1957.
^bUSSR totals are rounded.
^cBombers and fighters.

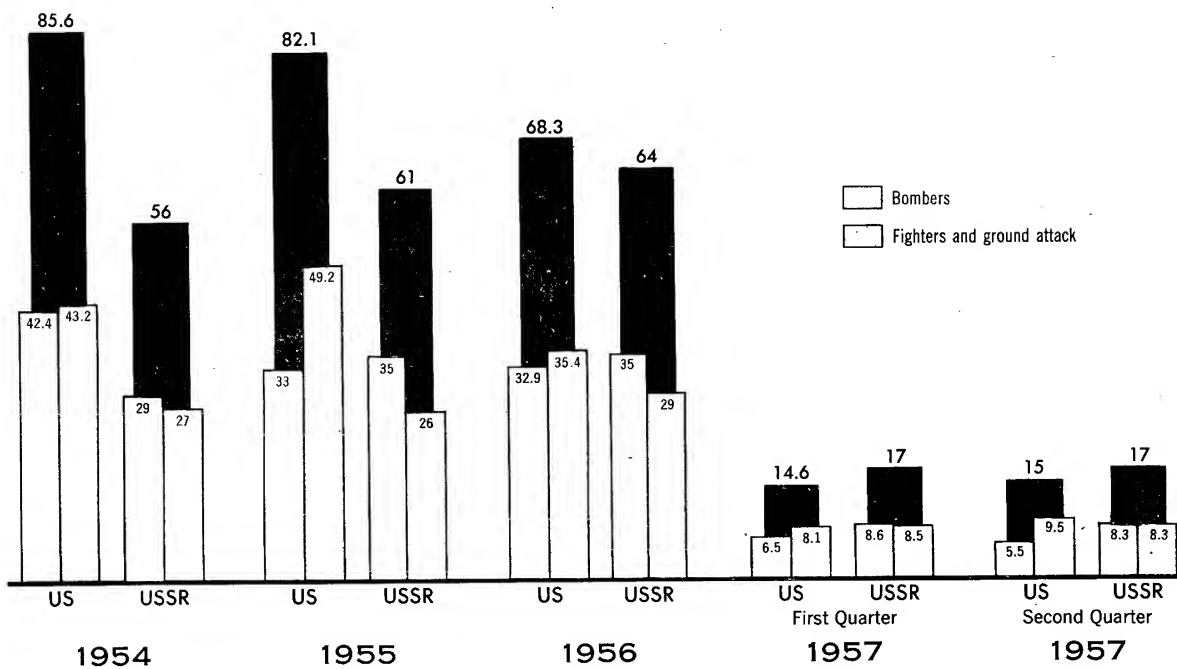
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Figure 2

US^a and USSR^b
PRODUCTION OF MILITARY AIRCRAFT^c, BY WEIGHT^d
1954 Through the Second Quarter of 1957

(Million pounds of airframe weight)



^a US totals include preliminary data for June 1957.

^b USSR totals include preliminary data for June 1957.

^c Bombers and fighters.

^d US figures do not include production of spare parts.

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